No. 7300057

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Stoneville Pedigreed Seed Company

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF seventeen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

COTTON

'Stoneville 603'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this first day of May in the year of our Lord one thousand nine hundred and seventy-five

PLANT VARIETY PROTECTION OFFICE · U.S. DEPARTMENT OF AGRICULTURE

Attest:

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Earl L Butz

Secretary of Agriculture

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EXHIBIT A, ORIGIN AND BREEDING HISTORY OF THE VARIETY

The initial cross in 1953 was between a strain subsequently to be released commercially as Stoneville 7 and a public line identified as 257-202 obtained from the late Dr. A. L. Smith, Department of Agronomy and Soils, Auburn University, Auburn, Alabama. The purpose for making this cross was to incorporate Fusarium wilt resistance (Fusarium oxysporum f. vasinfectum) into a "Stoneville-type" background.

The pedigreed method of breeding was used to develop Stoneville 603. The seeds from individual plants were harvested in the F_2 generation. Following evaluation of various characteristics 116 progeny rows were planted in the F_3 generation. Over the period of years from 1956 to 1963 plant selections were evaluated in progeny rows until one selection survived as Line No. 30603 which, when subjected to replicated field and laboratory tests over the next 5 years proved to be worthy of release as a commercial variety.

Following isolation of Line No. 30603 a total of 1476 plant selections have been made either directly from No. 30603 or from strains selected from it. No attempt was made to enumerate the type and number of variants during reproduction and multiplication, but no obvious sports have been noted. However, since Stoneville 603 is not genetically pure for Fusarium wilt resistance some plants have not proven to be resistant. Though no statistical analysis has been made it has been quite evident that as reselection continued the percentage of wilt susceptible plants has decreased.

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As evidence of the stability of Stoneville 603, the following table gives the range in values for several agronomic characteristics of strains of Stoneville 603. For comparison the range in values for a similar set of Stoneville 213 strains is also given. These data were obtained from replicated field tests planted at Stoneville, Mississippi, in 1972.

Characteristic	Stoneville 603	Stoneville 213
Lint percentage	35.1 - 37.3	37.7 - 39.1
Bolls per pound of seed cotton	72 - 77	70 - 75
Fiber strength		
Stelometer T_1	22.8 - 23.9	22.1 - 23.7
Stelometer T_0	88,000 - 96,000	86,000 - 97,000
Staple length in 32nd inches	1 1/32 - 1 1/16	1 1/32 - 1 1/16
Fiber length (2.5% span in inches)	1.08 - 1.12	1.07 - 1.12
Fiber fineness (Micronaire)	4.7 - 5.2	5.3 - 5.6

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EXHIBIT B, BOTANICAL DESCRIPTION OF THE VARIETY

Stoneville 603 exhibits no special characteristics of the seed, plant, flower or fruit. In all these plant parts it closely resembles Stoneville 213 except as noted in the following account.

Both varieties have similar growth habits and foliage characteristics. The leaves are a bit more deeply lobed than most varieties and have a distinct "cupping" appearance. Stoneville 213 produces a slightly taller plant than Stoneville 603 while Stoneville 603 sets a larger portion of its crop lower on the plant. Stoneville 603 is resistant to Fusarium wilt while Stoneville 213 is not. It is not as tolerant to Verticillium wilt (Verticillium albo-atrum) as Stoneville 213. Neither variety carries genetic resistance to bacterial blight (Xanthomonas malvacearum).

The lint percentage of Stoneville 603 is about two points below that of Stoneville 213. At Stoneville, Mississippi, in 1972 the lint percentages for the two varieties were 36.3 and 38.3 respectively. Because years and locations affect the level of expression of this trait these values are used only for comparison.

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Stoneville 603 and Stoneville 213 differed in several fiber measurements as shown in the following table. These data are averages obtained from replicated field tests of several strains of each variety at Stoneville, Mississippi, in 1972.

Trait	Stoneville 603	Stoneville 213
Fiber strength		
Stelometer T_1	23.5	22.8
Stelometer T_0	97,750	89,950
Fiber length (2.5% span in inches)	1.098	1.096
Fiber fineness (Micronaire)	4.9	5.4

Data obtained from replicated field tests at Stoneville, Mississippi, in 1972 have been used to define the similarities and differences between Stoneville 603 and Stoneville 213 simply because more data are available from this source. Comparisons made from data at other locations and in other years support the Stoneville data except for variations normally found for most varieties.

FORM GR-470-8 (10-2-72)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

FORM APPROVED. OMB NO. 40-R3712

EXHIBIT C (Cotton)

OBJECTIVE DESCRIPTION OF VARIETY

COTTON (*GOSSYPIUM SPP.*)

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)

Dr. G. R. Walker, Sr.

ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*)

Stoneville Pedigreed Seed Company
P. O. Box 167
Stoneville, Mississippi 38776

FOR OFFICIAL USE ONLY

PVPO NUMBER 73057

VARIETY NAME OR TEMPORARY DESIGNATION: STONEVILLE 603

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. SPECIES:

[1] 1 = GOSSYPIUM HIRSUTUM 2 = GOSSYPIUM BARBADENSE

2. AREA(S) OF ADAPTION (0 = Not Tested, 1 = Not Adapted, 2 = Adapted):

[2] EASTERN [ ] DELTA [ ] CENTRAL [ ] HIGH PLAINS [ ] EL PASO AREA
[ ] WESTERN LOW HOT VALLEYS [ ] SAN JOAQUIN [ ] OTHER (*Specify*) _____

3. MATURITY (50% Open Boll):

[0][0] NO. OF DAYS *EARLIER* THAN . . . . . [3]
[ ][ ] NO. OF DAYS *LATER* THAN . . . . . [ ]

1 = COKER 310 2 = DELTAPINE 16 3 = STONEVILLE 213
4 = PAYMASTER 111 5 = ACALA 1517-70 6 = ACALA SJ-1
7 = LANKART 57 8 = OTHER (*Specify*) _____

4. PLANT HABIT:

[2] 1 = SPREADING 2 = INTERMEDIATE 3 = COMPACT

[3] 1 = FOLIAGE SPARSE 2 = DENSE 3 = OTHER (*Specify*) Intermediate

5. PLANT HEIGHT:

[0][3] CM. *SHORTER* THAN . . . . . [3]
[ ][ ] CM. *TALLER* THAN . . . . . [ ]

1 = COKER 310 2 = DELTAPINE 16 3 = STONEVILLE 213
4 = PAYMASTER 111 5 = ACALA 1517-70 6 = ACALA SJ-1
7 = LANKART 57 8 = OTHER (*Specify*) _____

6. MAIN STEM: JJH letter 7/9/74

[2] 1 = LAX 2 = ASCENDING 3 = ERECT

[28] CM. TO FIRST FRUITING BRANCH

[0][6] NO. OF NODES TO FIRST FRUITING BRANC (*from cotyledonary node*)

7. LEAF:

[1][3] CM. WIDTH OF WIDEST LEAVES AT MATURITY

8. LEAF PUBESCENSE:

[3] 1 = GLABROUS (HAIRS AS SPARSE AS D_2 SMOOTH)
2 = SMOOTH LEAF (DELTAPINE SMOOTH LEAF) 3 = PUBESCENT (STONEVILLE 213)
4 = HEAVY PUBESCENCE (H_1 OR H_2) 5 = OTHER (*Specify*) _____

9. LEAF COLOR:

[2] 1 = VIRESCENT YELLOW 2 = LIGHT GREEN 3 = DARK GREEN (*Acala-442*) 4 = RED
5 = OTHER (*Specify*) _____

10. LEAF TYPE:

[1] 1 = NORMAL 2 = OKRA 3 = SUPER OKRA 4 = OTHER (*Specify*) _____

11. FLOWER:

[2] 1 = NECTARILESS 2 = NECTARIED

[1] Petals: 1 = CREAM 2 = YELLOW [1] Pollen: 1 = CREAM 2 = YELLOW

12. FRUITING BRANCH TYPE:

[3] 1 = CLUSTER 2 = SHORT 3 = NORMAL [2] 1 = DETERMINATE 2 = INDETERMINATE

13. GOSSYPOL CONDITION:

[3] 1 = GLANDLESS 2 = REDUCED GLANDS 3 = NORMAL GLANDS
4 = OTHER (*Specify*) _____

[1] 1 = NORMAL BUD GOSSYPOL
2 = HIGH BUD GOSSYPOL

14. SEEDS:

[1][2.2] ± [0][6] SEED INDEX (*Fuzzy seed basis*)

[2] Seed Fuzz: 1 = SPARSE (GREGG 35) 2 = MODERATE (DPL-16)
3 = HEAVY (ACALA SJ-1) 4 = OTHER (*Specify*) _____

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Exhibit D
Cotton - 'Stoneville 603'

PV # 7300057

'Stoneville 603' resembles 'Stoneville 213' more closely than other varieties but 'Stoneville 603' is resistant to fusarium wilt, is less tolerant to verticillium wilt, leaves are more deeply lobed and are cupped, lint percent is ~~20%~~ 6% lower, and micronaire is 0.5 lower.

Jan. 3, 1975
(Date)

C W Manning
(Signature)

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EXHIBIT D, DATA INDICATIVE OF NOVELTY

The original objective of the breeding program which led to the development of Stoneville 603 was to produce a Fusarium wilt resistant variety in a "Stoneville-type" background. This has been done and the Fusarium wilt resistance and adaptability of Stoneville 603 to the Southeast and other similar areas would have to be considered its greatest novelty.

Data from Table 8 of Departmental Series No. 2, Department of Agronomy and Soils, Auburn University, Auburn, Alabama, January 1972 gives the average percentages of plants of several varieties showing symptoms of Fusarium wilt in a soil severely infested with the fungus and root-knot nematodes at the Plant Breeding Unit, Tallassee, Alabama. The data for several varieties have been omitted for condensation purposes only.

Variety	Average per cent infected plants, 1969 - 1971
Auburn 56	23.8
Coker 201	54.3
Coker 310	44.3
Stoneville 213	77.5
Stoneville 603	34.8

From these data it is noted that for the three years, 34.8% of the plants of Stoneville 603 showed wilt symptoms. For comparison the

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average values for Stoneville 213, Coker 201 and Coker 310 are given. Stoneville 213 is susceptible to this disease while Coker 210 and Coker 310 which are considered resistant were grown on more acres in the Fusarium wilt areas of the Southeast in 1972 than all other varieties. For a number of years Auburn 56 has been used as the standard of comparison for cotton breeders interested in Fusarium wilt resistance in the southern cotton region and it is closely related to 202-257, one parent of Stoneville 603.

'STONEVILLE 603' RESEMBLES 'STONEVILLE 213' MUCH MORE CLOSELY THAN OTHER VARIETIES WITH WHICH WE ARE FAMILIAR. Letter 7/9/74 9912

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EXHIBIT E, STATEMENT OF THE BASIS OF APPLICANT'S OWNERSHIP

As shown under Item 9 of the application the Stoneville Pedigreed Seed Company, Stoneville, Mississippi, is the applicant. The application has been signed by the Director of Research who is the actual breeder and is acting as an employee of the company. STONEVILLE PEDIGREED SEED Co. is the owner. Letter 7/9/74

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FORM GR-470-8 (REVERSE)

15. BOLLS:

[2] Locules: 1 = 3-4, 2 = 4-5

[ ] [ ] NO. SEEDS PER BOLL

[3][6][3] LINT PERCENT

[3][2] MM. DIAMETER

[1] Pitted: 1 = NONE, 2 = FINELY, 3 = COURSELY

[6][1][0] GRAMS SEED COTTON PER BOLL — 8gH letter 7/9/74

[2] Breadth: 1 = BROADER AT BASE, 2 = BROADER AT MIDDLE

[3] Type: 1 = STORMPROOF (WESTBURN 70), 2 = STORM RESISTANT (LANKART 57), 3 = OPEN (DELTAPINE 16)

[3] Shape: 1 = LENGTH < WIDTH, 2 = LENGTH = WIDTH, 3 = LENGTH > WIDTH

16. BRACTEOLES:

[3] Breadth: 1 = LENGTH < WIDTH 2 = LENGTH = WIDTH 3 = LENGTH > WIDTH

[1] Teeth: 1 = FINE 2 = COURSE

[3] Teeth: 1 = 3-4 2 = 5-7 3 = 8-10 4 = OTHER (Specify) _____

17. YIELD: Compared to—

[1][4][3] PERCENT *LESS* THAN .....

[ ][ ][ ] PERCENT *MORE* THAN .....

[3] [ ] 1 = COKER 310 2 = DELTAPINE 16 3 = STONEVILLE 213 4 = PAYMASTER 111 5 = ACALA 1517-70 6 = ACALA SJ-1 7 = LANKART 57

18. FIBER LENGTH (Complete one or more of the following and give the means):

[ ][ ][ ] SPAN LENGTH 50%

[1][1][0] SPAN LENGTH 2.5%

[ ][ ][ ] U.H.M. LENGTH

[ ][ ][ ] MEAN LENGTH

[ ][ ] STAPLE LENGTH 32nd INCHES

[ ][ ] UNIFORMITY RATIO (MEAN/U.H.M.)

[4][5] UNIFORMITY INDEX (50% SPAN/2.5% SPAN)

19. FIBER STRENGTH AND ELONGATION:

[ ][9][8] 1,000 P.S.I.

[ ][5][5] ELONGATION E_1

[ ][ ][ ] STILOMETER T_0

[4][9][0] MICRONAIRE READING

[ ][ ][ ] YARN STRENGTH (Give test method) _____

[2][3][5] STILOMETER T_1

20. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[1] VERTICILLIUM WILT — 1 8gH letter 7/9/74

[0] BACTERIAL BLIGHT (Race 2) — 1 8gH letter 7/9/74

[2] FUSARIUM WILT

[0] ASCOCHYTA BLIGHT

[0] ANTHRACNOSE

[0] RUST

[2] ROOT KNOT NEMATODE

[0] PHYMATOTRICHUM ROOT ROT

[ ] OTHER (Specify) _____

[0] BACTERIAL BLIGHT (Race 1) — 1 8gH letter 7/9/74

[0] RHIZOCTONIA

21. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[0] BOLL WEEVIL

[0] FALL ARMYWORM

[0] STINKBUG

[ ] OTHER (Specify) _____

[0] APHID

[0] GRASSHOPPER

[0] THRIP

[0] FLEAHOPPER

[0] LYGUS

[0] CUTWORM

[0] LEAFWORM

[0] PINK BOLLWORM

[0] SPIDERMITE

REFERENCES: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(1) Brown, Harry B., and J. O. Ware, 1958, Cotton, McGraw-Hill Book Company, Inc., New York.

(2) Lewis, C. F., and H. H. Ramey, Jr., 1971, 1970 Regional Cotton Variety Tests, ARS 34-130, United States Department of Agriculture.

COLORS: Nickerson's or any recognized color fan may be used to determine flower color of the described variety.

FORM GR-470
(2-12-71)

UNITED STATES DEPARTMENT OF AGRICULTURE
CONSUMER AND MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

FORM APPROVED
OMB NO. 40-R3712

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

1. VARIETY NAME OR TEMPORARY DESIGNATION	2. KIND NAME	FOR OFFICIAL USE ONLY	
Stoneville 603	Cotton	PVPO NUMBER 73057	
3. GENUS AND SPECIES NAME	4. FAMILY NAME *(Botanical)*	FILING DATE 2-1-73	TIME 3:30 P.M.
Gossypium hirsutum, L.	Malvaceae		
	5. DATE OF DETERMINATION	FEE RECEIVED	CHARGES
	January 1968	$ 7.50	

6. NAME OF APPLICANT(S)	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*	8. TELEPHONE AREA CODE AND NUMBER
Stoneville Pedigreed Seed Company	P.O. Box 167 Stoneville, Mississippi 38776	601-686-2334

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)*	10. STATE OF INCORPORATION	11. DATE OF INCORPORATION
Corporation	Mississippi	Sept. 1922

12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers:

Dr. G. R. Walker, President
Stoneville Pedigreed Seed Company
P.O. Box 167
Stoneville, Mississippi 38776

Dr. C. W. Manning, Director of Research
Stoneville Pedigreed Seed Company
P.O. Box 167
Stoneville, Mississippi 38776

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- [X] 12A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52, P.L. 91-577)*
- [X] 12B. Exhibit B, Botanical Description of the Variety
- [✓] 12C. Exhibit C, Objective Description of the Variety
- [X] 12D. Exhibit D, Data Indicative of Novelty
- [X] 12E. Exhibit E, Statement of the Basis of Applicant's Ownership

The applicant declares that a viable sample of basic seed of this variety will be deposited upon request before issuance of a certificate and will be replenished periodically in accordance with such regulations as may be applicable. *(See Section 52, P.L. 91-577).*

14A. Does the applicant(s) specify that seed of this variety be sold by variety name only as a class of certified seed? *(See Section 83(a), P.L. 91-577) (If "Yes," answer 14B and 14C below.)* [X] YES [ ] NO

14B. Does the applicant(s) specify that this variety be limited as to number of generations?	14C. If "Yes," to 14B, how many generations of production beyond breeder seed?
[X] YES [ ] NO	Two

Applicant is informed that false representation herein can jeopardize protection and result in penalties.

The undersigned applicant(s) of this sexually-reproduced novel plant variety believes that the variety is distinct, uniform, and stable as required in Section 41 and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act (P.L. 91-577).

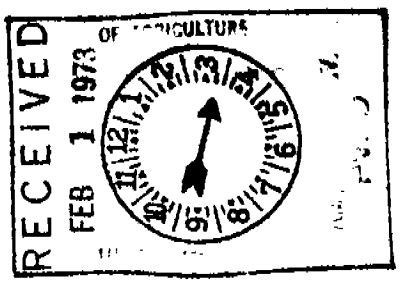
January 16, 1973
(DATE)

C W Manning
(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

FORM GR-470 (REVERSE)



INSTRUCTIONS

GENERAL: Send an original copy of the application, exhibits and $50.00 fee to U.S. Dept. of Agriculture, Consumer and Marketing Service, Grain Division, Hyattsville, Maryland 20782. Retain one copy for your files. All items on the face of the form are self-explanatory unles noted below.

ITEM

5 Insert the date the applicant determined that he had a new variety.

12a First, give the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method. Second, give the details of subsequent stages of selection and multiplication. Third, indicate the type and frequency of variants during reproduction and multiplication and state how these variants may be identified. Fourth, provide evidence on stability.

12b First, give any special characteristics of the seed and of the plant as it passes through the seedling stage, flowering stage and the fruiting stage. Second, describe the mature plant and compare it with a similar commercial variety grown under the same conditions, and indicate the differences.

12c A supplemental form will be furnished by the PVPO to describe in detail a variety for each kind of seed.

12d Provide complete data indicative of novelty. Seed and plant specimens may be submitted and seeds submitted may be sterile. Where possible, include photographs of plant comparisons, chemical tests, etc.

12e Indicate whether applicant is the actual breeder, the employer of the breeder, the owner through purchase or inheritance, etc.